HOYA AUSTRALIS SUBSP. *SANAE* (BAILEY) K. HILL (ASCLEPIADACEAE) AS A HOST PLANT FOR *MARGARONIA MICROTA* MEYRICK (LEPIDOPTERA: PYRALIDAE)

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Abstract

Larvae of *Margaronia microta* feed on the parenchymatous tissue of the leaves of *Hoya australis* subsp. *sanae* before pupating inside the leaf. This taxon of *Hoya* R. Br. is characterised by very thick leaves and it is speculated that due to their thinner leaves, other taxa of the genus in Australia may be unsuitable as larval hosts for *M. microta*.

Introduction

Margaronia microta is a rarely collected small moth that has been reported from widely separated areas in Queensland (based on holdings at QDPI, QM, and UQIC). No previous host plants have been recorded for *M. microta*, however *M. tolumnialis* (Walker) has been reported to damage the foliage of figs (Moraceae) (Common 1970).

Observations and Discussion

During botanical exploration in June 1989 of the area west of Temple Bay in far north Cape York Peninsula, Queensland (12°28'S 143°01'E), a population of the succulent-leaved vine *Hoya australis* subsp. *sanae* was examined (Voucher: Forster 5525 (Queensland Herbarium, Brisbane)). Several moth larvae were observed to be feeding in the leaf tissue and the plants with resident larvae were collected for further observations.

This live material of the *Hoya* was transported to Brisbane, where a single adult moth emerged and was identified as *Margaronia microta* (Voucher: Forster 89605: UQIC). Larvae of this moth enter the leaf by chewing through the lower epidermis near the base of the lamina. The larvae then proceed to feed on the mesophyll tissue between the upper and lower epidermis. When the mesophyll tissue in any one leaf is consumed, the larvae then move to another leaf repeating the process. Most larvae appeared to require two to three leaves before pupating. Pupation occurred within the dried leaf shell, although some larvae pupated in the surrounding container.

Hoya australis subsp. *sanae* has particularly succulent leaves in comparison to most other taxa of this genus or other Asclepiadaceae that occur in Australia (Table 1). Only the closely allied *H. rupicola* K. Hill from the Northern Territory and Western Australia has leaves with a similar thickness of mesophyll tissue. Given the eventual size of the pupae of *M. microta* (4-5 mm long and 2.2-2.6 mm diameter, n=4), it is perhaps unlikely that other taxa of *Hoya*, apart from *H. rupicola*, are suitable for the feeding pattern reported above. *H. australis* subsp. *sanae* is restricted to Cape York Peninsula in the

Table 1. Total leaf, mesophyll and epidermal thicknesses in Australian taxa of *Hoya* (Asclepiadaceae). All vouchers [ ] at Queensland Herbarium, Brisbane.

Taxon and Voucher	total leaf thickness (mm)	mesophyll thickness (mm)	epidermis thickness (upper = u, lower = l) (μm)
australis R. Br. subsp. *australis* [Forster 2418 & 1852]	1.20-1.60	0.50-1.58	2-6 (u) 2-3 (l)
australis subsp. *sanae** (Bailey) K. Hill [Liddle IML528]	3.30-3.55	3.20-3.35	9-10 (u) 2-3 (l)
litoralis Schltr. [Hardy IML708]	1.90-2.00	1.87-1.99	2 (u) 1-2 (l)
macgillivrayi Bailey [Liddle IML15]	2.30-2.40	1.85-2.10	3-4 (u) 2-3 (l)
nicholsoniae F. Muell. [Liddle IML 39]	1.35-1.50	1.40-1.60	2 (u) 2 (l)
oligotricha subsp. *tenuipes* K. Hill [Liddle IML25]	0.90-0.95	0.85-0.95	3-4 (u) 1-2 (l)
pseudolittoralis Hemsley [Gray IML24]	0.98-1.15	0.85-0.95	2-3 (u) 1.5-2 (l)
rupicola K. Hill* [hort. IML464]	2.75-3.00	2.50-2.97	2-3 (u) 2 (l)

* known/suggested hosts for *M. microta*.

region including and north of the above field observations, so presumably this moth must use other hosts in southern regions. Conversely it should be noted that the genus *Margaronia* Hübner is in need of revision and future studies may well reveal that the individual cited above is not conspecific with the southern populations presently identified as this taxon in the insect collections at QDPI, QM and UQIC.

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Reference

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